## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization

International Bureau



# 

#### (43) International Publication Date 18 March 2004 (18.03.2004)

### **PCT**

### (10) International Publication Number WO 2004/023014 A3

(51) International Patent Classification7:

E21B 19/16

(21) International Application Number:

PCT/US2003/025716

- (22) International Filing Date: 18 August 2003 (18.08.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/412,371

9 September 2002 (09.09.2002)

- (71) Applicant (for all designated States except US): ENVEN-TURE GLOBAL TECHNLOGY [US/US]; 16200 A Park Row, Houston, TX 77084 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): COSTA, Scott [US/US]; 2011 Willow Point, Kingwood, TX 77330 (US). RING, Lev [US/US]; 14126 Heatherhill Place, Houston, TX 77077 (US). MENCHACA, Jose [US/US]; 9800 Pagewood Lane, Number 210, Houston, TX 77042 (US).
- (74) Agent: MATTINGLY, Todd; Haynes and Boone, LLP, 1000 Louisiana, Suite 4300, Houston, TX 77002-5012 (US).

- (81) Designated States (national): AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, E.S., FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Declaration under Rule 4.17:

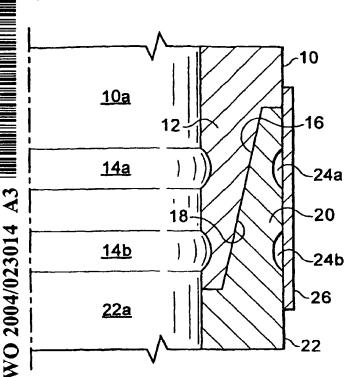
of inventorship (Rule 4.17(iv)) for US only

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: THREADED CONNECTION FOR EXPANDABLE TUBULARS



(57) Abstract: A threaded connection for expandable tubulars. There is a first tubular (10) with external threads (16) and a second tubular (22) with matching internal threads. Each of these tubular has stress concentration grooves (14a, 14b, 24a, 24b). There is a sleeve (26) that goes over the connection between the threaded portions of the tubulars. After connection these tubulars can be expanded downhole in a wellbore.

# WO 2004/023014 A3



(88) Date of publication of the international search report: 3 March 2005

report: For two-letter codes and other abbreviations, refer to the "Guidach 2005" ance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(15) Information about Correction:
Previous Correction:
see PCT Gazette No. 41/2004 of 7 October 2004, Section 11

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/25716

		76170803725710		
A. CLASSIFICATION OF SUBJECT MATTER				
IPC(7) : E21B 19/16				
US CL: 166/380, 207; 285/333  According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
	<del></del>			
	cumentation searched (classification system followed	by classification symbols)		
U.S.: 166/380, 207, 381, 382, 206; 285/333, 334; 403/297				
Documentation	on searched other than minimum documentation to the	e extent that such documents are include	ed in the fields searched	
1				
	ta base consulted during the international search (nar	ne of data base and, where practicable,	search terms used)	
Please See Co	ontinuation Sheet			
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where ap	poropriate, of the relevant passages	Relevant to claim No.	
X	US 5,924,745 A (Campbell) 20 July 1999 (20.07.19			
<i>`</i>	9 - column 4, line 27.	777), figures 5 and 4, column 5, mes	1, 3-5, 7-9, 11, 12, 15, 17-21	
Y	SU 1,756,531 A (KRYZHANOVSKII et al) 28 Mar	ch 1990 (28.03.1990). Figure 1.	1, 3-5, 7-9, 11, 12,	
	abstract.	,	15, 17-21	
Y	WO 99/23354 (METCALFE) 14 May 1999 (14.05.	1999), figure 5, page 11 lines 23-28.	1, 3-5, 7-9, 11, 12,	
			15, 17-21	
A, E	US 6,622,797 B2 (SIVLEY IV) 23 September 2003	(23.09.2003), whole document.	1-12, 15-21	
A, E	A, E US 6,607,220 B2 (SIVLEY, IV) 19 August 2003 (19.08.2003), whole document.			
A, P	A, P US 6,564,875 B1 (BULLOCK) 20 May 2003 (20.05.2003), whole document.			
Λ, Γ	05 0,304,673 B1 (BULLOCK) 20 May 2005 (20.0	5.2003), whole document.	1-12, 15-21	
	US 2002/0108756 A1 (HARRALL et al) 15 August 2002 (15.06.2002), whole document. 1-12, 15-21			
	1-12, 13-21		1,	
Α	US 6,322,109 B1 (CAMPBELL et al) 27 November	2001 (27.11.2001), whole document.	1-12, 15-21	
A US 6,085,838 A (VERCAEMER et al) 11 July 2000		0 (11.07.2000), whole document.	1-12, 15-21	
F**			<u> </u>	
Further documents are listed in the continuation of Box C See patent family annex.				
Special categories of cited documents: "T" later document published after the international filing date or			nternational filing date or	
"A" document	defining the general state of the art which is not considered to	priority date and not in conflict with understand the principle or theory u	the application but cited to	
be of particular relevance				
"E" carlier ap	plication or patent published on or after the international filing	"X" document of particular relevance; the considered novel or cannot be consi	dered to invention cannot be	
date	•	step when the document is taken alo		
	t which may throw doubts on priority claim(s) or which is cited	"Y" document of particular relevance; the	ne claimed invention cannot be	
	sh the publication date of another citation or other special reason	considered to involve an inventive a	tep when the document is	
•	(28 specified) combined with one or more other such documents, such combination being obvious to a person skilled in the art			
"O" document referring to an oral disclosure, use, exhibition or other means		"&" document member of the same pater	it family	
"P" document published prior to the international filing date but later than the				
Date of the actual completion of the international search  Date of mailing of the international search report				
1	_	13 JAN 2005	F	
1	ailing address of the ISA/US il Stop PCT, Ann: ISA/US	Authorized officer  David J. Bagnell	ノ	
	mmissioner for Patents	David J. Bagnell V		
P.O. Box 1450  Alexandria Vinisia 22213 1450  Telephone No. (703) 308-1113				
Alexandria, Virginia 22313-1450 Telephone No. (703) 308-1113 Facsimile No. (703) 305-3230				
Газащие (10.) 202-2220				

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT	PC1/US03/25716			
Continuation of B. FIELDS SEARCHED Item 3: Derwent, JPO, EPO				
Terms: Thread, Stress concentrator, stress, expand/expanding, mbular, casing				

Form PCT/ISA/210 (second sheet) (July 1998)

#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# CORRECTED VERSION

### (19) World Intellectual Property Organization International Bureau



### (43) International Publication Date 18 March 2004 (18.03.2004)

# **PCT**

# (10) International Publication Number WO 2004/023014 A3

(51) International Patent Classification<sup>7</sup>:

(21) International Application Number:

PCT/US2003/025716

- (22) International Filing Date: 18 August 2003 (18.08.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/412,371

20 September 2002 (20.09.2002) US

- (71) Applicant (for all designated States except US): ENVEN-TURE GLOBAL TECHNLOGY [US/US]; 16200 A Park Row, Houston, TX 77084 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): COSTA, Scott [US/US]; 2011 Willow Point, Kingwood, TX 77330 (US). RING, Lev [US/US]; 14126 Heatherhill Place, Houston, TX 77077 (US). MENCHACA, Jose [US/US]; 9800 Pagewood Lane, Number 210, Houston, TX 77042 (US).

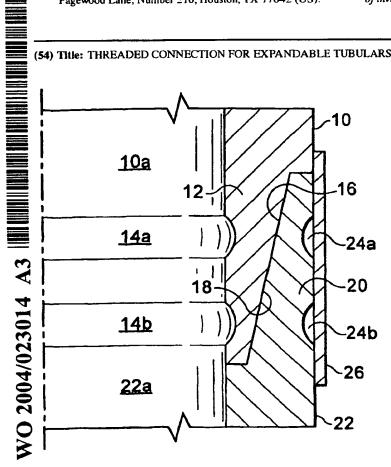
- E21B 19/16 (74) Agent: MATTINGLY, Todd; Haynes and Boone, LLP, 1000 Louisiana, Suite 4300, Houston, TX 77002-5012 (US).
  - (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
  - (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

### Declaration under Rule 4.17:

of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: THREADED CONNECTION FOR EXPANDABLE TUBULARS



(57) Abstract: A threaded connection for expandable tubulars. There is a first tubular (10) with external threads (16) and a second tubular (22) with matching internal threads. Each of these tubular has stress concentration grooves (14a, 14b, 24a, 24b). There is a sleeve (26) that goes over the connection between the threaded portions of the tubulars. After connection these tubulars can be expanded downhole in a wellbore.

#### 

#### Published:

- with international search report
- (88) Date of publication of the international search report: 3 March 2005
- (48) Date of publication of this corrected version: 19 May 2005
- (15) Information about Corrections:
  - see PCT Gazette No. 20/2005 of 19 May 2005, Section II Previous Correction:
  - see PCT Gazette No. 41/2004 of 7 October 2004, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.